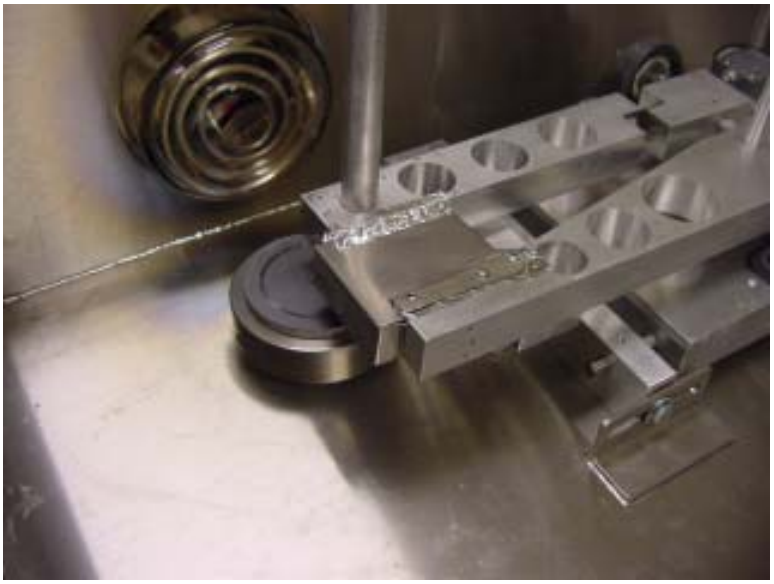
Plasma Environment Tribotester Facility

Purpose:

To test the performance of aerospace lubricants under conditions approximating the space environment.

The environment encountered in space is different from that on the earth. In space, there are concerns about ultraviolet radiation, atomic oxygen, and vacuum exposure on lubricants. These lubricants can be greases, oils, composite materials, or low friction coatings. The Plasma Environment Tribotester (PET) is a device that can closely duplicate the conditions of space while evaluating the frictional properties of lubricants. The PET uses an American Society for Testing Materials (ASTM) pin on disc apparatus that can be loaded and the speed varied while the lubricant is exposed to the conditions separately or in combination. The coefficient of friction can be determined and a relative ranking of lubricants given. This will allow designers to choose the best candidate for long life lubrication in mechanisms used in space.



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